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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/754,033

01/08/2004

Robert James Martin III

60,130-1951; 03MRA0484

6078

26096

7590

06/09/2005

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EXAMINER

PANG, ROGER L

ART UNIT

PAPER NUMBER

3681

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/754,033

Applicant(s)

MARTIN, ROBERT JAMES

Examiner

Roger L. Pang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11 and 13-18 is/are rejected.
- 7) ☒ Claim(s) 10 and 12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5-13-05</u> . | 6) <input type="checkbox"/> Other: ____ |

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DETAILED ACTION

The following action is in response to application 10/754,033 filed on January 8, 2004.

Claim Objections

Claim 11 is objected to because of the following informalities: on line 1, "lubricating" should be replaced with --lubrication--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 13-16, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Hayes. With regard to claims 1, 13 and 18, Hayes teaches a drive axle assembly for a vehicle comprising: an input 38 operably coupled to a power source; at least one axle shaft 36 driven by said input; an axle housing 16 substantially enclosing said axle shaft; at least one wheel end 14B including a gear set 26B driven by said axle shaft wherein said gear set is substantially enclosed within a gear housing (Fig. 1B); and a pumping mechanism 54 driven by said axle shaft wherein said pumping mechanism pumps a lubricating fluid from a first predetermined fluid level A1 in said axle housing to a second predetermined fluid level W1 in said gear housing, said second predetermined fluid level being vertically higher than said first predetermined fluid level. With regard to claims 2 and 14, Hayes teaches the assembly, wherein said pumping mechanism

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comprises an impeller mounted for rotation with said axle shaft (Col. 3). With regard to claim 3, Hayes teaches the assembly wherein the impeller includes a tube portion and a plate portion attached to said tube portion (Fig. 4). With regard to claim 15, Hayes teaches the method including the steps of position an impeller housing laterally between the axle housing and the gear housing and mounting the impeller for rotation within the impeller housing (Fig. 2). With regard to claim 16, Hayes teaches the method, including the step of varying the fluid flow rate from the axle housing to the gear housing by varying the lateral positioning of the impeller within the impeller housing (inherent during assembly).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 7-9, 11, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayes as applied to claims 3, and 15 above, and further in view of Tison. With regard to claims 4, 7, and 17, Hayes teaches the assembly wherein said plate portion may comprise of various slinger configurations (Col. 3), but lacks the specific teaching of the slinger configuration being shaped as an auger. Tison teaches a lubrication slinger configuration being shaped as an auger 52. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hayes to employ an auger shaped slinger in view of Hayes in order to provide a simplified means for transporting lubricant within an axle assembly (Col. 1). Also, with regard to claim 7, Hayes teaches the plate portion comprising a circular disc (one helical protrusion of

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Tison (Col. 1)) with a center opening for receiving said tube portion, said disc having a first radially extending edge positioned at a first location on said tube portion and a second radially extending edge positioned at a second location on said tube portion laterally spaced from said first location to define a fluid flow path (Fig. 2A; Tison). Also with regard to claim 17, Hayes teaches the impeller, pumping fluid from the axle housing through the impeller and into the impeller housing, damming fluid within the impeller housing to raise the fluid level up to the second fluid level, and transferring fluid from the impeller housing into the gear housing via a port 52 formed in a wall of the impeller housing when the fluid reaches the second fluid level. With regard to claim 8, Hayes teaches the assembly, including an impeller housing portion laterally positioned between said axle housing and said gear housing, said impeller housing portion defining a cylindrical cavity that receives said rotating impeller (Fig. 2). With regard to claim 9, Hayes teaches the assembly, including an end plate 46b laterally positioned between said impeller housing and said gear housing, said end plate including a fluid port 52 in fluid communication with a gear cavity defined within said gear housing. With regard to claim 11, Hayes teaches the assembly, wherein said impeller pumps said lubrication said axle housing through said fluid flow path and into said cylindrical cavity to create a fluid dam (Fig. 4).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayes as applied to claim 3 above, and further in view of Fidelman. Hayes teaches the assembly wherein the plate portion is connected to the outer circumferential surface of the tube portion (being integral with it), but lacks the teaching of the plate portion being a separate welded portion. Fidelman teaches a slinger with a tube 34 and a disc 35 that is welded to it (Col. 1). It would have been obvious to one of ordinary skill at the time of the invention to modify Hayes to employ a separate welded

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plate portion in view of Fidelman, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayes as applied to claim 3 above, and further in view of Iseki. Hayes teaches the assembly wherein the tube portion is attached to the axle shaft (Col. 3), but lacks the specific teaching of using a press-fit means of attachment. Iseki teaches a slinger 2 with a tube that is connected to a shaft 3 via a press-fit (Abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hayes to employ a press-fit in view of Iseki in order to provide a simple attachment means.

Allowable Subject Matter

Claims 10 and 12 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fluery, Baedke and Brill have been cited to show similar transmission lubrication means.

FACSIMILE TRANSMISSION

Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is (703) 305-3597. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check.

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Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (703) 305-3597) on _____ (Date)

Typed or printed name of person signing this certificate:

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roger L. Pang whose telephone number is 571-272-7096. The examiner can normally be reached on 5:30am to 4:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Roger L. Pang', with a stylized, looping flourish at the end.

Roger L Pang
Primary Examiner
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June 8, 2005